



RecyclingWorks in Massachusetts

Fiscal Year 2015 Summary



Lorenzo Macaluso-Director of Green Business Services



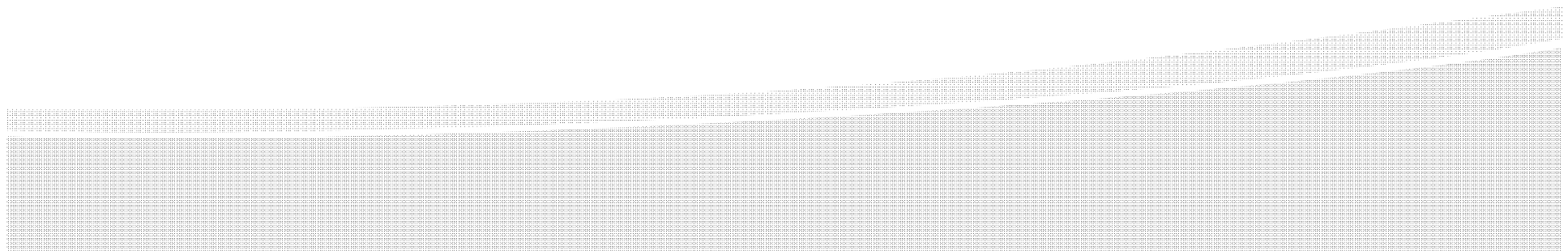
Recycling Works in Massachusetts

- Helps businesses and institutions
 - Maximize waste diversion
 - Save money
 - Waste Ban Compliance
 - Customer/Employee satisfaction
- Funded by MassDEP, delivered under contract by the Center for EcoTechnology



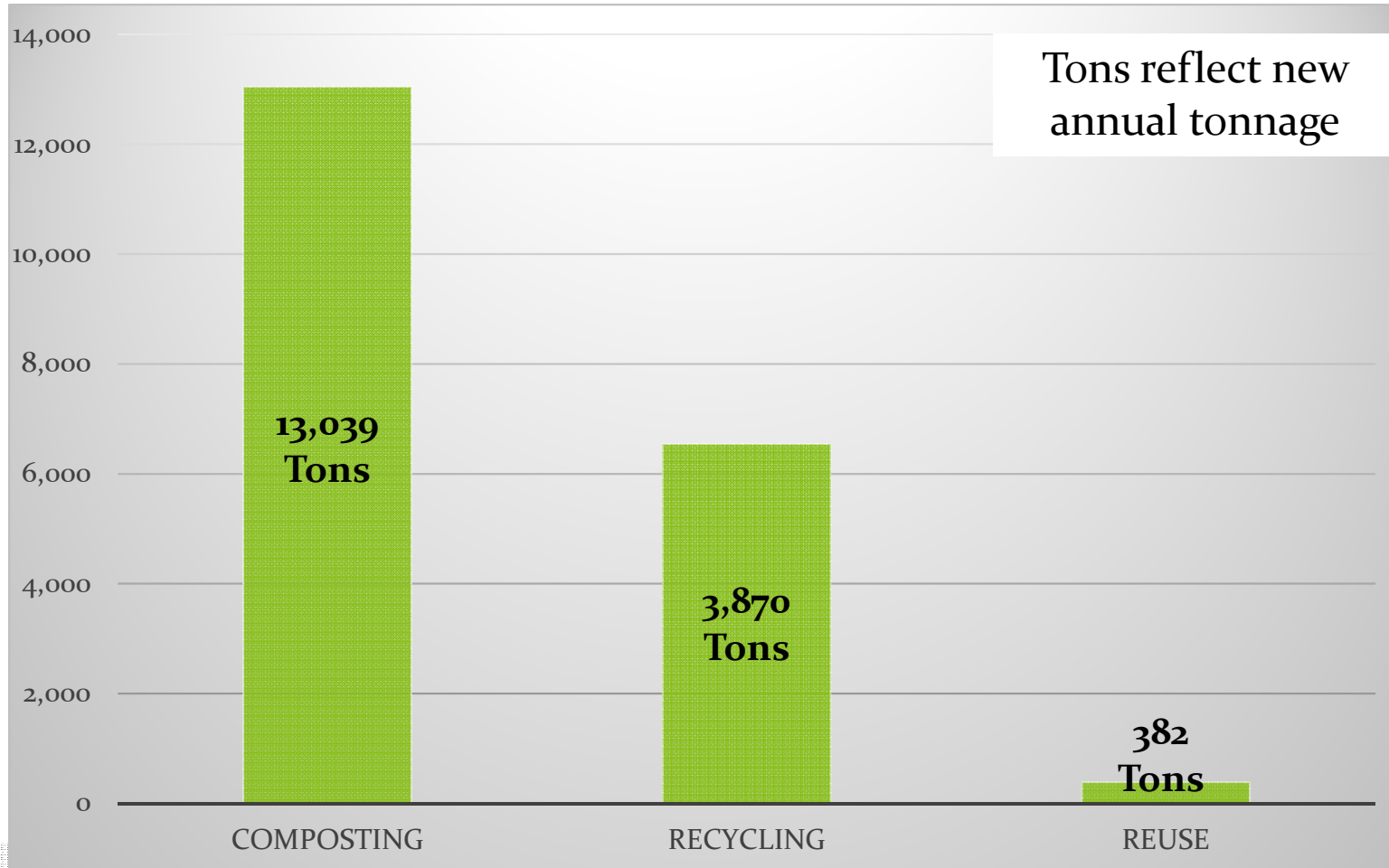
RecyclingWorks in Massachusetts

Services include:

- Online Resources
 - Email and Phone Hotline
 - Technical Assistance
 - Events and Workshops
 - WasteWise Program Administration
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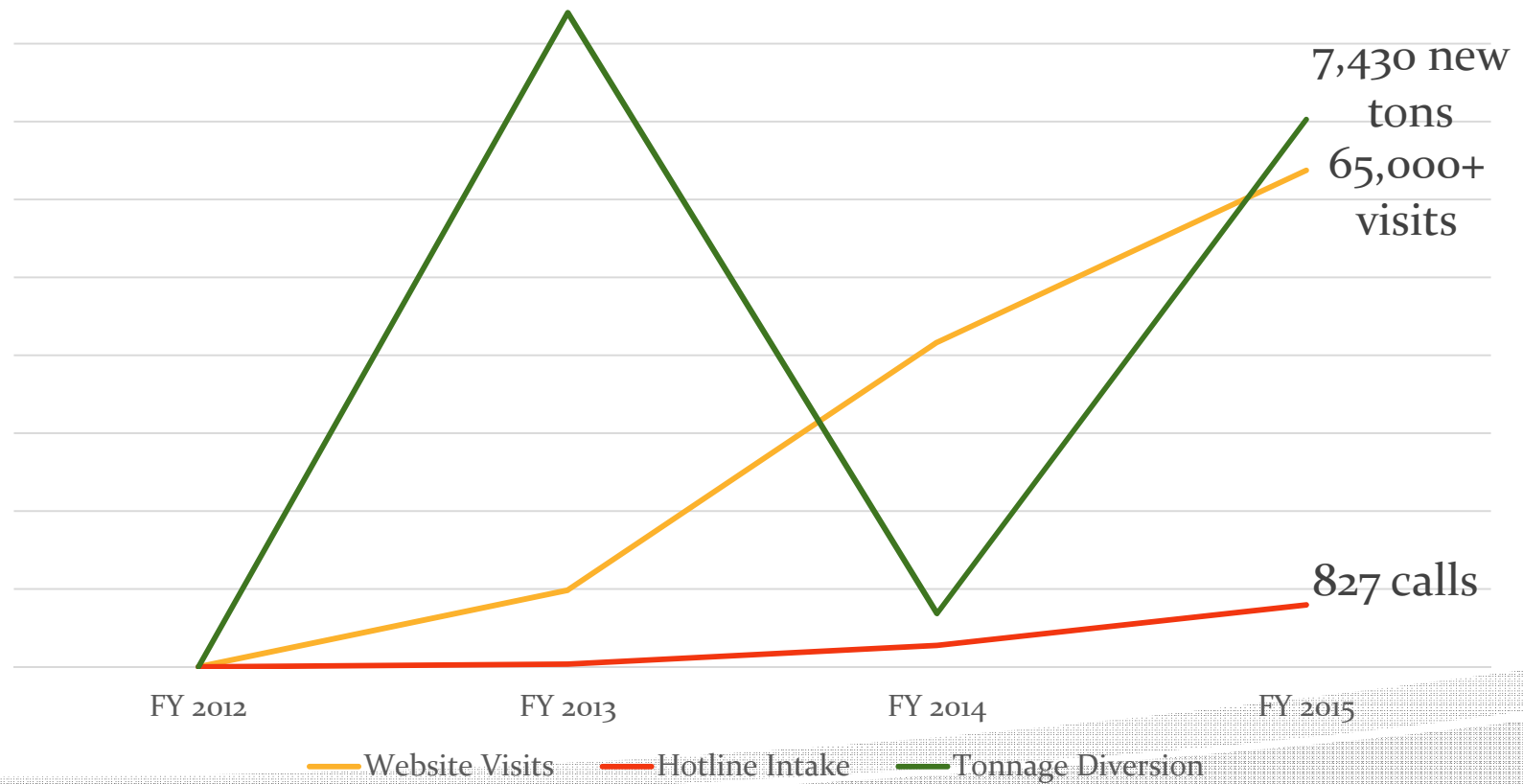
Total Diversion Impact to Date





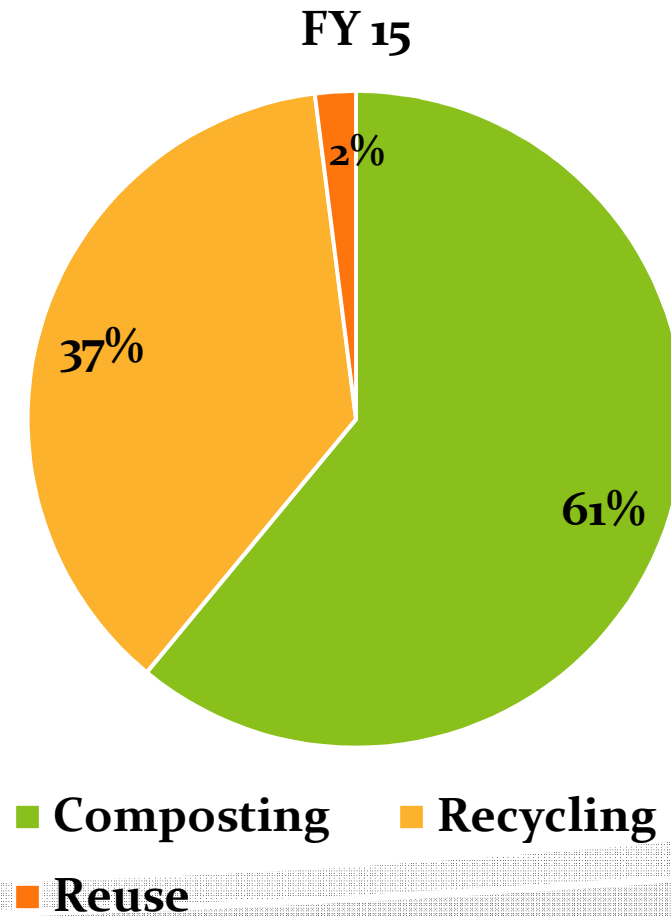
Program Growth

Fiscal Years 2012 - 2015





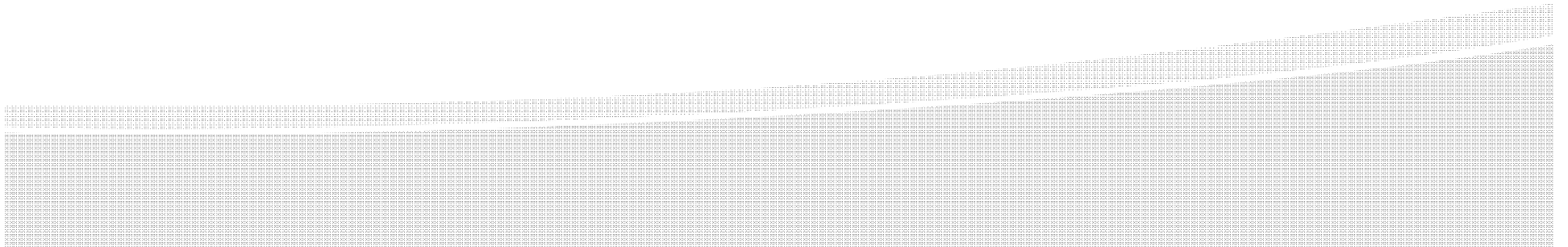
Fiscal Year Tonnage Diversion





Online Resources

New Resources Added 2015





On-site Systems for Food Waste



On-Site Systems for Managing Food Waste

Overview of listed on-site systems for food waste diversion
(Listed alphabetically by company name)

Page	Company Name	Model Name	Output Material	Capacity	Volume/Weight Reduction (%)	Energy Use	Price Range (USD)
9	BIOferm Energy Systems	COCCUS	Digestate for direct land application or further processing	15-30 tons/day	30-60%	~15-17%	\$450,000 - \$850,000
10	BIOferm Energy Systems	Dry Fermentation	Digestate for direct land application or further processing	43,000 - 380,500 lbs/day	Typical 40% volume	~8-10%/kW	\$400,000 - \$1,200,000
11	BIOferm Energy Systems	LUCOLINE	Digestate for direct land application or further processing	15,000-30,000 lbs/day	30-60% reduction	~20%/kWe	\$250,000 - \$850,000
12	BioHitech America	Eco-safe Digester 400	Grey water / nutrient-neutral effluent	800 lbs/day	100%	605 kWh/month	\$19,000 - \$40,000
13	BioHitech America	Eco-safe Digester 800	Grey water / nutrient-neutral effluent	1,600 lbs/day	100%	605 kWh/month	\$19,000 - \$40,001
14	BioHitech America	Eco-safe Digester 1200	Grey water / nutrient-neutral effluent	2,400 lbs/day	100%	605 kWh/month	\$19,000 - \$40,002
15	DanTech Inc dba TR Environmental	EnviroDrum Model 6-20	Meets PFRP for in-vessel compost	Up to 6 cu yd/day	20-80%	30-100 kWh/day	\$140,000 - \$200,000
16	DanTech Inc dba TR Environmental	EnviroDrum Model 6-32	Meets PFRP for in-vessel compost	Up to 10 cu yd/day	20-80%	50-150 kWh/day	\$200,000 - \$250,000
17	DanTech Inc dba TR Environmental	EnviroDrum Model 8-40	Meets PFRP for in-vessel compost	Up to 25 cu yd/day	20-80%	150-400 kWh/day	\$275,000 - \$350,000
18	DanTech Inc dba TR Environmental	EnviroDrum Model 8-14	Meets PFRP for in-vessel compost	Up to 3 cu yd/day	20-80%	25-75 kWh/day	\$90,000 - \$130,000
19	EC ALL Ltd	BigHanna T10	Ready compost	44-77 lbs/day	90%	1.11 kWh/day (indoor)	\$45,000
20	EC ALL Ltd	BigHanna T120	Ready compost	88-154 lbs/day	90%	1.11 kWh/day (indoor)	\$55,000
21	EC ALL Ltd	BigHanna T240	Ready compost	187-374 lbs/day	90%	1.53 kWh/day (indoor)	\$84,000
22	EC ALL Ltd	BigHanna T480	Ready compost	251-750 lbs/day	90%	2.35 kWh/day (indoor)	\$154,000
23	Eco Eco Solutions	LFC-050	Liquid output, connected to drain	200 lbs/day	99%	4.7 kWh/day	\$14,250
24	Eco Eco Solutions	LFC-070	Liquid output, connected to drain	280 lbs/day	99%	5.8 kWh/day	\$18,500
25	Eco Eco Solutions	LFC-100	Liquid output, connected to drain	400 lbs/day	99%	8.1 kWh/day	\$22,500



Special Event Recycling & Composting



TIPS FOR RECYCLING & COMPOSTING AT SPECIAL EVENTS

Planning

- ☐ Involve important stakeholders in the planning stage, including waste haulers, concessionaires, and partner organizations.
- ☐ Know your waste hauler and where they will be taking your recycling and compost material.
- ☐ Decide your program's focus: the vendor (back-of-house) waste only or include guest (front-of-house) waste too.
- ☐ Choose the types of waste receptacles to use at your event. Some haulers may be able to supply bins as part of their service contract.
- ☐ Use a consistent color system throughout the event space to ensure that each bin is easily identified. The most popular colors to use are black or brown for trash, blue for recycling, and yellow or green for compost.
- ☐ Design signage using both graphics and text to indicate what goes in each bin and what does not.
- ☐ Consider adding a clause to vendor contracts requiring them to use recyclable or compostable to-go materials for easy sorting.
- ☐ Plan to monitor and evaluate the recycling program during the event and discuss your waste tracking needs with your hauler ahead of time.
- ☐ Outline responsibilities and logistics of the recycling program in an email to concessionaires, exhibitors, vendors, and event staff prior to the event.
- ☐ Train volunteers and event staff and consider stationing them at waste bins throughout the event space.
- ☐ Group waste receptacle types (trash, recycling, and compost) together to minimize contamination – where there's a trash bin, there should be a recycling bin next to it.

During the Event

- ☐ Distribute receptacles throughout the event grounds, placing more in high-traffic or food-driven areas.
- ☐ Place signage on all visible sides of the receptacle, as well as the top, if space permits.
- ☐ Empty trash, recycling, and compost bins regularly throughout the event to minimize overfilling.
- ☐ Station volunteers at high traffic areas to help guests sort their recyclables and other waste materials.

After the Event

- ☐ Continue recycling and monitoring during the breakdown of the event.
- ☐ Use waste data collected throughout the event to generate results of your event's recycling program and to inform your next event's planning sessions.
- ☐ Identify opportunities for increased waste reduction, reuse, and donation.
- ☐ Ask for feedback from volunteers, guests, and your hauler to continually improve your waste diversion program.

Additional Resources

- ☐ MassDEP Marshfield Case Study - <http://www.mass.gov/eea/docs/dep/recycle/reduce/m-thru-x/marshfield-fair.pdf>
- ☐ EPA Lowell Folk Festival Case Study - <http://www.lowellfolkfestival.org/lff%20recycling%20-%20epa%20recognition.pdf>
- ☐ FCSWMD Tool Kit - <http://www.mass.gov/eea/docs/dep/recycle/reduce/toolkit/rspecialg.pdf>
- ☐ NERC Best Management Practices - http://nerc.org/documents/special_event_bmps_final.pdf
- ☐ EPA Tip Sheet - <http://www.epa.gov/wastes/conserve/tools/rogo/venues/events.htm>



Best Management Practices

- Stakeholder engagement in FY15
- Posted to website in FY16

[HOME](#) [ABOUT](#) [FIND A RECYCLER](#) [RECYCLE](#) [FOOD WASTE](#) [REUSE](#)

Food Donation Guidance for Massachusetts Businesses

The RecyclingWorks in Massachusetts program has worked with state and local health officials, food rescue organizations, food banks, and organizations with established food donation programs to develop this Food Donation guidance document by holding three stakeholder meetings across the state in Springfield (March 25, 2015), Worcester (April 9, 2015) and Boston (April 29, 2015). The information gained from the meetings was used to create this guidance document.

The US EPA's Food Recovery Hierarchy ranks feeding hungry people near the top of its priorities as a strategy to reduce wasted food. Businesses should consider how each strategy on the EPA Hierarchy can contribute to a comprehensive food waste reduction plan.

This document is intended to provide guidance to organizations interested in establishing Food Donation programs by offering a broad overview of how successful food donation programs should be structured. In order to have a successful food donation program there are four major steps that must be taken:

1. Identify the types and amounts of food to be donated
2. Identify partner organizations in your area with which to work
3. Determine packaging, storage, and labeling requirements to ensure food safety

Food Recovery Hierarchy
www.epa.gov/foodrecoverychallenge

- Source Reduction**
Reduce the volume of surplus food generated
- Feed Hungry People**
Donate extra food to food banks, soup kitchens and shelters
- Feed Animals**
Divert food scraps to animal feed
- Industrial Uses**
Provide waste oils for rendering and fuel conversion and food scraps for digestion to recover energy
- Composting**
Create a nutrient-rich soil amendment
- Landfill/Incineration**
Last resort to disposal



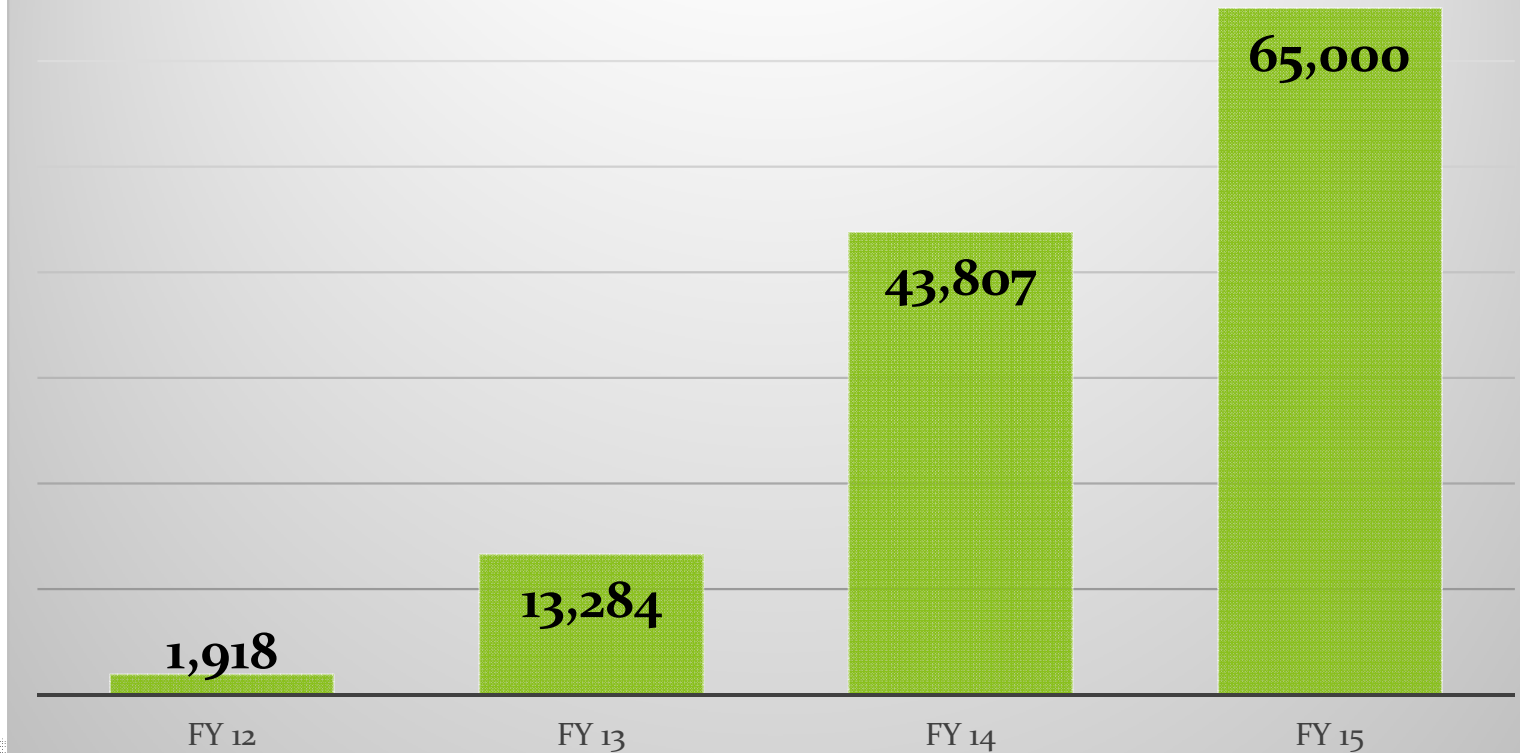
Other Website Updates

- Ceiling tile recycling added to construction page
- X-ray film recycling added to hospitals page
- Gleaning added to food waste page
- Printable version of Commercial Organics Ban Threshold Estimation Guide added
- List of organizations interested in accepting food for depackaging added
- Hauler/Processor listings added and updated on the “Find-a-Recycler” database



Website Statistics

Total Website Visits: 2012-2015





Most visited webpages

1. Homepage
2. Find-a-Recycler
3. Main food waste page
4. Comply with the organics ban
5. Materials guidance: plastics
6. Materials guidance: cardboard
7. Materials guidance: bottles/cans
8. Food waste estimation guide



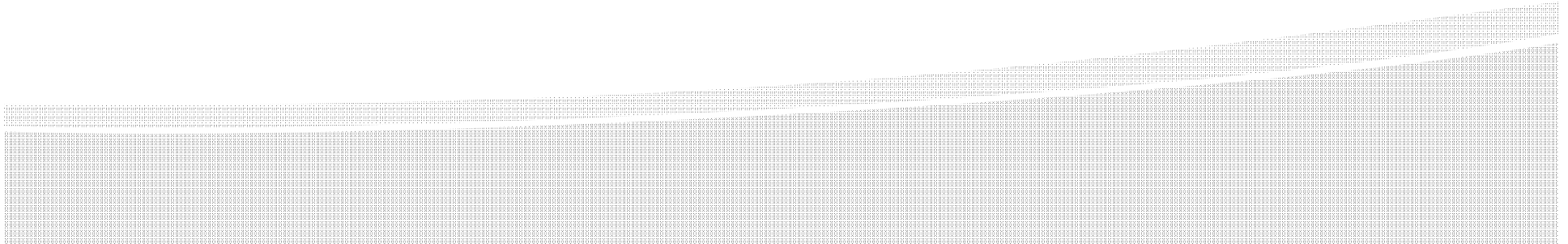
Hotline Intakes, 2012-2015

Fiscal Year 2012: 138

Fiscal Year 2013: 301

Fiscal Year 2014: 468

Fiscal Year 2015: 827





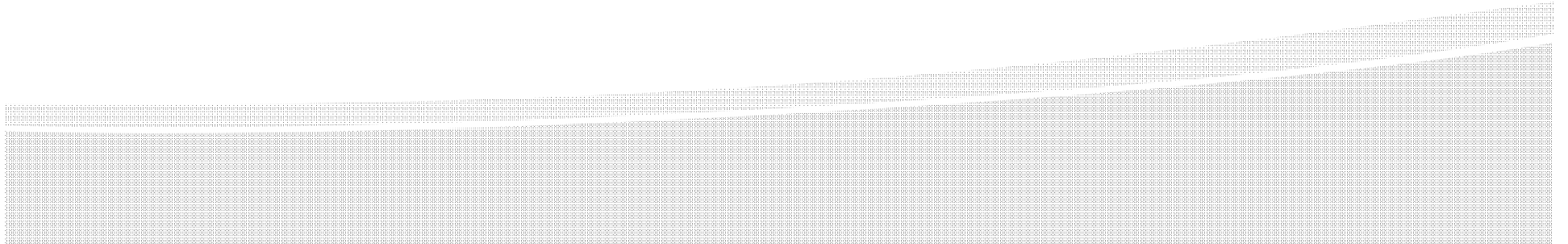
Hotline Topic Examples

- Textiles call
- Mill buildings video
- Cell phone tracked in recycling
- Cans for 25¢, Seinfeld style undertaking
- Toy dice
- Retailer NON Conference Call
- Bumper2Bumper Magazines



Direct Technical Assistance

167 Businesses and Institutions Received
Assistance this Year





Technical Assistance in FY15

Type	Total Assisted	FY15 Goal
Hospitality	16	20
Generators Subject to Ban	31	25
State Facilities	13	12
General On-Site TA	25	30
Mini-TA	82	50
Totals	167	137



Case Study:

America's Food Basket / CERO, Boston, MA

- RecyclingWorks worked with America's Food Basket and CERO to start a food waste diversion program
- Rolled program out in 4 of 5 America's Food Basket Stores
- 4.5 tons of food scraps diverted per week
- America's Food Basket is the anchor customer for CERO's new food waste collection service





America's Food Basket-Video



<https://www.youtube.com/watch?v=rB4Cevd6hkE>



2014 WasteWise Fall Forum

- Topic: Diversion and Reduction through Reuse
- Location: EcoBuilding Bargains, Springfield
- 50 Attendees
- Presentations on reusing furniture, mattresses, and building materials



2015 WasteWise Spring Forum

- Topic: Diversion and reduction through Food Donation
- Location: Whole Foods Regional Offices, Cambridge
- 50 Attendees
- Presentations from Whole Foods, Lovin' Spoonfuls, and Food Donation Connection



Marketing and Media

- 11 interviews with the media
- 23 events/speaking engagements



Compost Site Technical Assistance

- Three composting industry experts assist compost site operators
- 9 sites receiving assistance
- Provide basic assistance to each site
- Developing more in-depth, customized assistance in FY15



Coming in FY15 ...

- Food Donation BMP's posted (already complete!)
- RecyclingWorks website update
- CURC
- Potential BMP development (C&D, Biotech Plastics)
- Guidance document for generators to be informed consumers of hauling services



Additional Information

Visit our website at
www.recyclingworksma.com

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